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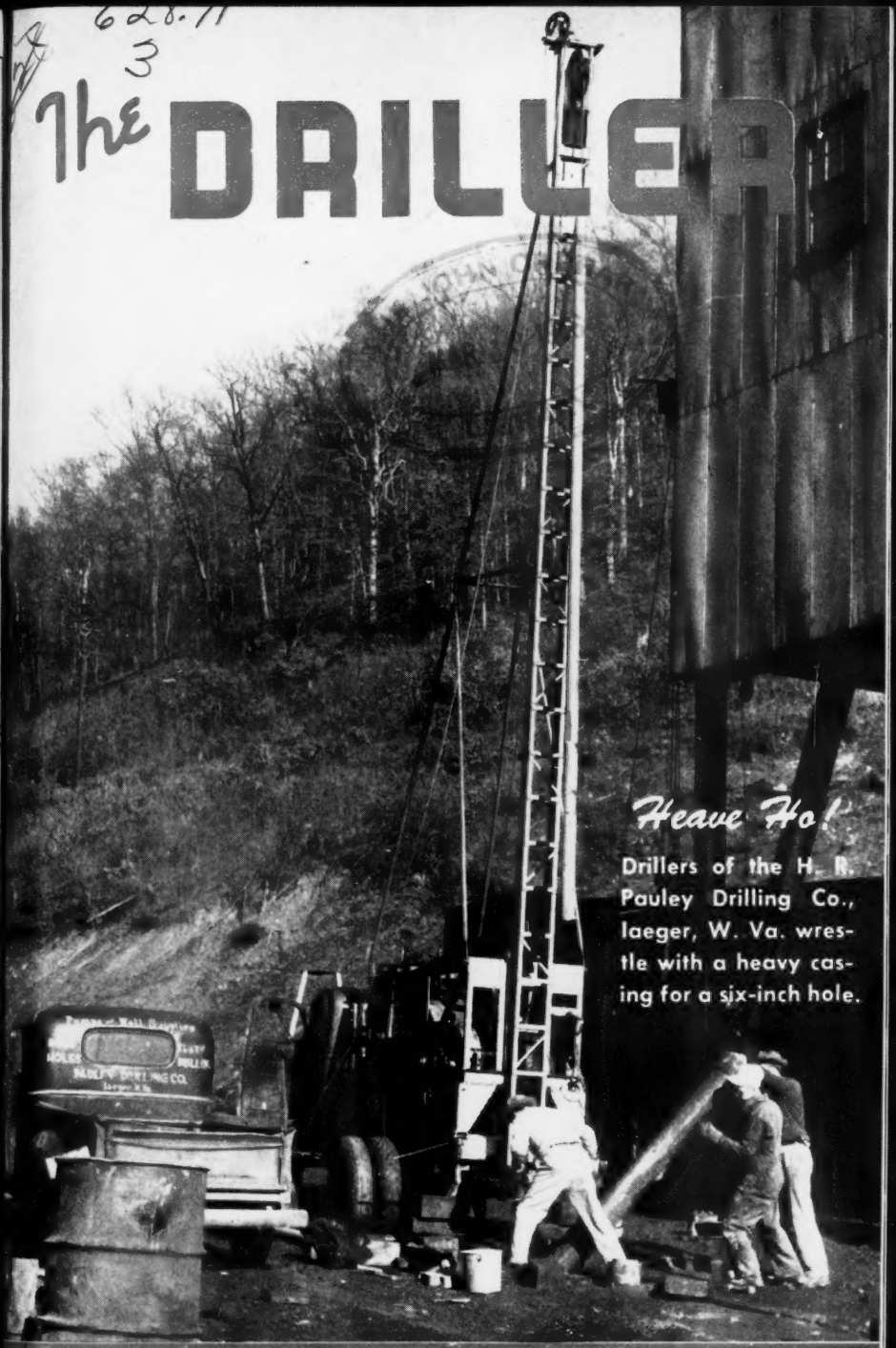
The DRILLER



Heave Ho!

Drillers of the H. R. Pauley Drilling Co., Iaeger, W. Va. wrestle with a heavy casing for a six-inch hole.

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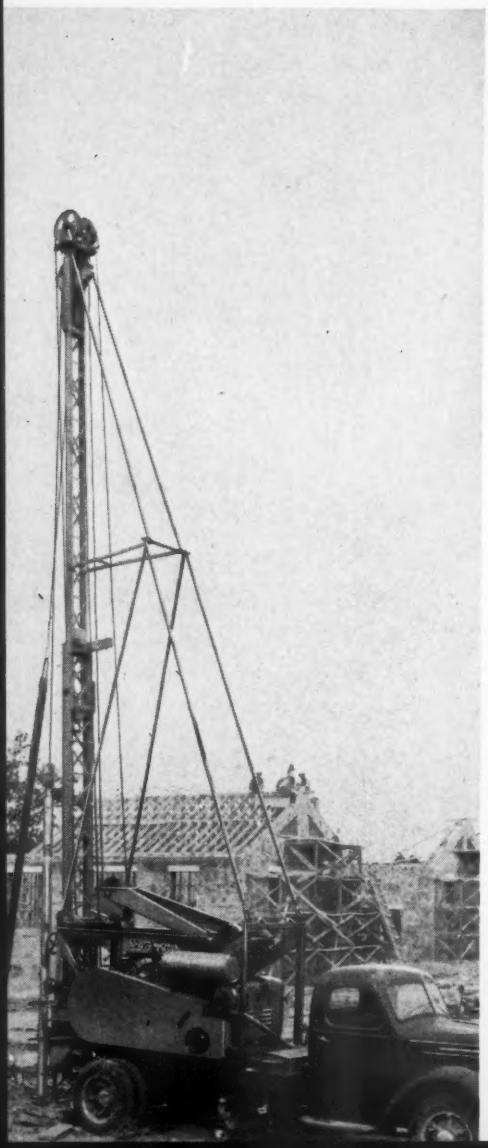
VOLUME 20 MARCH, 1946 NUMBER

You Wouldn't Throw Money Down A Hole . . .



. . . but that's exactly what you do wh you use old, obsolete drilling equ ment—rigs that cut down your marg of profit because they're inefficie There's no throwing money down hole with Bucyrus-Eries! They ha an unmatched drilling action scienti cally developed to deliver the shar penetrating drilling blows that mea the most in footage—and speed completion of well contracts. A everything Bucyrus-Eries have in dri ing effectiveness they match strength, for their all-steel arc-welde construction means many years minimum-maintenance operation. Ea to operate, easy to move, easy to s up, Bucyrus-Eries are bringing owne everywhere added profits.

BUCYRUS ERIE

South Milwaukee, Wiscons

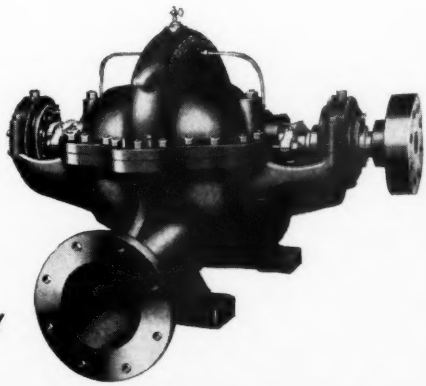
PEERLESS PUMPS

UPON THE STRONG, GREATER STRENGTH IS BESTOWED

A Statement by
FOOD
MACHINERY
CORPORATION
in regard to
Dayton-Dowd

An important advance in the history of the pumping industry now makes available a new conception of integrated pump service to customers. *Dayton-Dowd,* long associated with sustained high quality—a distinguished name on centrifugal pumps —has become an integral part of the Peerless Pump organization. To the prestige and enviable reputation of *Dayton-Dowd* have opened new horizons of progress and wider scope for service by alliance with the nation-wide facilities of *Food Machinery Corporation.*

This merger of broad installation-wise experience, modern technical research and alert engineering talent assures our customers for both Horizontal and Vertical types of pumps that the name Peerless stands as the guarantee for quality and progress.



PEERLESS HORIZONTAL PUMPS

-formerly Dayton-Dowd

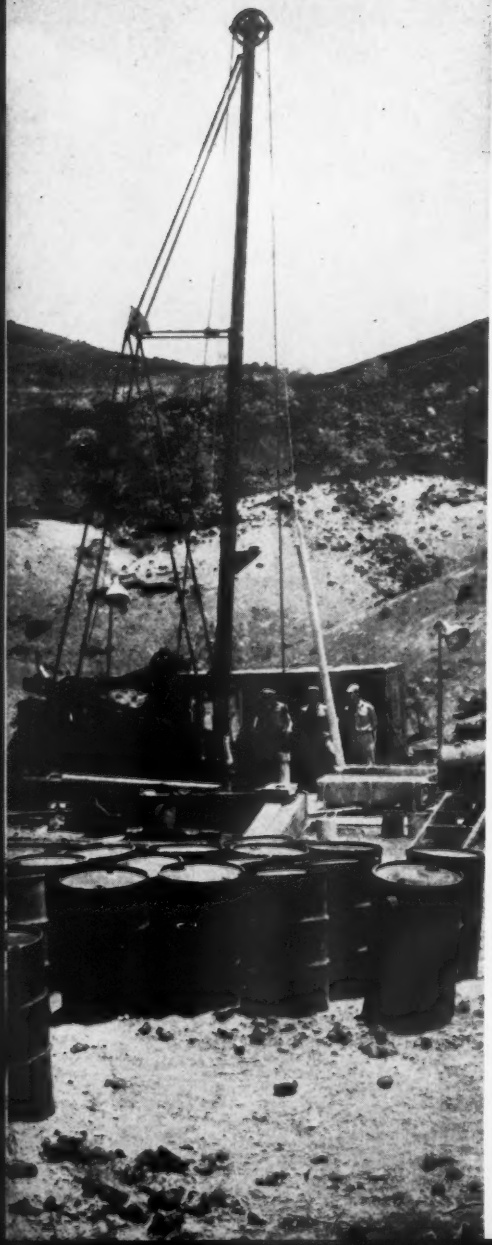
F.M.C. builds with STEEL

PEERLESS PUMP DIVISION—FOOD MACHINERY CORPORATION
Factories: Los Angeles, Calif. Quincy, Illinois. Canton, Ohio.

WAR-TIME BUILDERS OF THE VICTORIOUS "WATER BUFFALO"
PEACE-TIME BUILDERS OF TOP-FLIGHT WATER PUMPS

Developing Wells With Compressed Air

In this article prepared especially for readers of THE DRILLER, J. L. Harper, head of J .L. Harper & Co. of Cleveland, Ohio, gives interesting details on the use of compressed air for the development of sand and gravel wells.



MORE and more industries are establishing factories away from the big industrial centers in the belief that operating conditions will be better in small communities. The trend was started before the war and now with peace, the trend is accelerated. This means more work for well drillers, because where there is industry there must be an ample supply of water.

Ground water development is a subject of importance to the driller who plans to provide the new industries and the expanded community of workers in his area with a water supply. Indirectly, well development becomes important, too, to the prosperity of the town in which an attractive industry contemplates locating, as the decision to establish a factory may hinge on the assurance of a water supply.

Seasoned well drillers generally agree that the most effective method of development of sand and gravel wells is by the use of compressed air. There are various ways to carry on this development, but one common application of compressed air is described here.

The compressed air method of development is rapid and effective when conditions are right and the

• Compressed air helped our fighting men get water, too. This picture was taken during the war at an Army Air Force base on Ascension Island. At this base, between Brazil and Africa, compressed air was used for cementing wells. Air pressure blows the cement down to fill cracks and crevices in well.

• Portable compressor forcing air 190 feet into a well to form air pocket.

right equipment is properly used. The driller who will go about the job intelligently will be rewarded by good results. There is small chance of the work being overdone when the results are carefully checked. With these precautions, and if the yield is weak and the drawdown rapid, the indication would be that other development methods should be used.

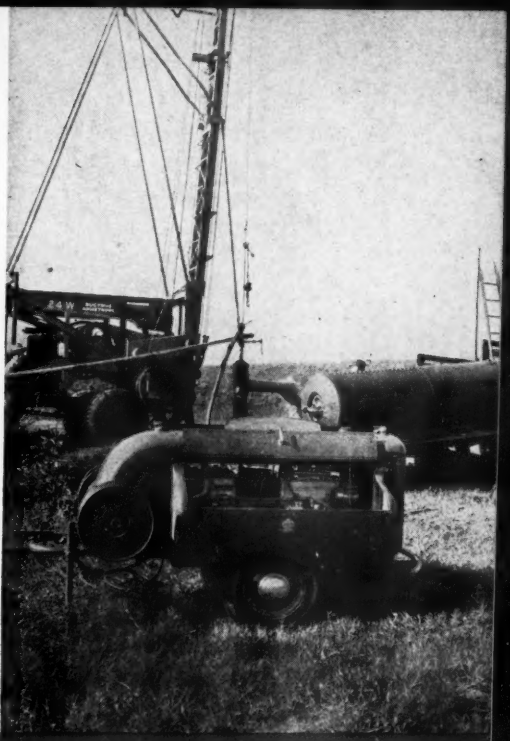
Sudden release of large volumes of compressed air in the well produces a strong surging action through the screen because of the friction of the formation and the hydrostatic head resistance. At the same time, pumping is being carried on with an air lift pump. These two actions can be skillfully combined for favorable results.

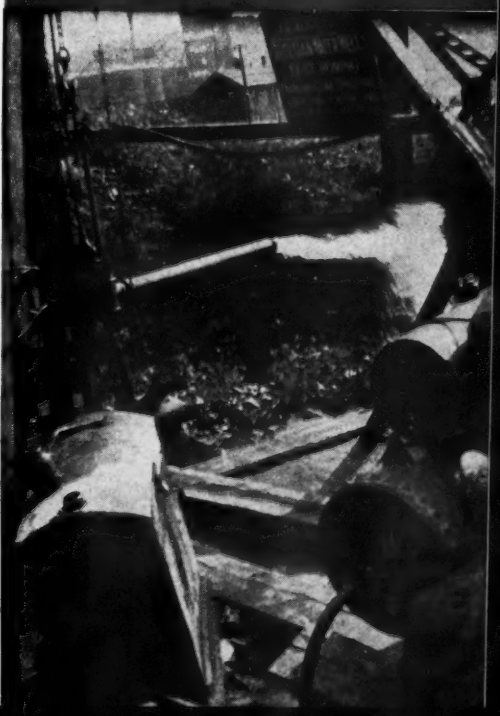
Tables Can Be Had

An air compressor with an air receiver of at least 15 cubic feet capacity should be used in this development. The exact capacity of the compressor is not important unless it is to be used permanently to pump the well by the air lift method. In that case, the compressor and power unit should be carefully figured. Compressor manufacturers can provide tables for drillers not familiar with air lift pumping problems.

A portable air compressor with gasoline motor and air tank usually proves best for general development and testing work. The capacity of the portable compressor for development work should be at least 20 per cent greater (40 per cent is safer) than the capacity at which the well is to be permanently pumped. Ample capacity is needed because most causes for failure in developing

(Continued on page 17)





• This shows J. L. Harper & Co. "blowing a head" in the development of a well by compressed air. The hook on drilling machine holds the air line for lowering and raising. The chain below hook is for raising conductor pipe. The worker at the portable air compressor is ready to turn a quick action valve on the air receiver when pressure is built up. This will get a strong surging action through the screen.

LOOK! — Hidden Business Expenses

by H. J. ASHE

IF YOU HAD $500 in the bank would you pay $115 or more income tax on that amount? You wouldn't. You'd pay only on such income as you derived from that $500 in the form of interest.

But, believe it or not, an exceedingly large number of small business men of the country do just that every year in a left-handed manner. They pay an income tax on *apparent* profits which, actually, are depreciating assets. And, they also continue to pay income taxes on other unrecorded or hidden business expenses which, in the last minute scramble to meet the March 15 tax deadline, are overlooked.

While no one that I know has yet considered an income tax *per se* a virtue — though conceding its necessity — the income tax law may accomplish one good thing for small business men: It may make them more alert to the true earnings of their businesses by giving them a monetary incentive for more careful checking of ALL expenses.

For generations, one of the minor tragedies of American business has been the illusion held by small businessmen that they make more money —what an employee calls take-home pay -- than in fact they ever do.

THE DRILLER believes that since the majority of its readers own their own businesses, this article will be of interest to them when filing their income tax returns this year. Perhaps you, too, have failed to deduct hidden business expenses from your total earnings.

Simple books may indicate a $4,000 income with a drawing account of $3,000 apparently leaving an annual nest-egg of $1,000; yet years later, even though this nest-egg apparently accrues each year, the business man wakes up to the sad fact that this same nest-egg represents substantially the difference between reality and illusion; that it has been a snare and delusion; that while it worked out beautifully on paper each year-end, it has disappeared.

Where has it gone? Usually, the answer is to be found in the constant drain on the small business of hidden business expenses that do not appear in simple bookkeeping setups. Unless recognized and properly recorded as business expenses, these are the items that every day of the year pilfer the cash drawer as surely as a defaulting employee.

Over 50% Fail To Report

In recent years this has been more forcefully brought home to me by the preparation of income tax returns for countless business men, most of whom are counted reasonably astute in business matters. In filling out 1944 income tax returns I estimated from my own experience that fully fifty per cent of all small operators fail to report ALL of the costs of doing business.

To illustrate how this works take a typical case. A business man has $3,000 worth of equipment calling for a depreciation rate of 10 per cent annually, that is, it has a life expectancy of ten years. He takes no depreciation. If this taxpayer is even in the lowest surtax bracket of $2,000, this over-sight costs him an additional tax of $69, because his net profit — by his own calculation — is $300 greater by his failure to take $300 depreciation to which he is rightfully entitled.

Speaking from actual experience I have found that the most common over-sights are failure to take: 1. Depreciation on some or all of the taxpayer's equipment or fixtures; 2. depreciation on trucks; 3. depreciation on private cars used partly in business. I shall enumerate more in a moment.

• Loss from accident either to business or other property not covered by insurance is a deductible business expense.

The items already referred to represent business assets being liquidated through use in producing gross income without which net income would be impossible. The cost, by depreciation of these items is as much a cost of producing income as are labor, merchandise, supplies and

• Depreciation on equipment may also be entered as business expense.

• Costs of business entertainment may be deducted from total income.

the thousand and one petty items usually so carefully recorded.

Probably the simplest explanation as to why the above items seldom appear as business expenses is because they do not appear in the books as an expenditure in the year for which the report is being made, having been acquired in previous years. Actually, if a truck has been purchased say in 1942 for $1,200 and has a life expectancy of five years, then it follows that this truck (in initial outlay, alone) is costing the taxpayer $240 annually as surely as though an item for that amount showed as an outlay for the tax year reported.

Dual Purpose Property Confuses

In the case of drillers, many operate their businesses in conjunction with their homes. A dual purpose property (home and business) serves to confuse them as to which is business and which is residence. Because they are domiciled in such a property, they are inclined to think of such an establishment as a purely personal arrangement. Until advent of high income taxes there was no need for segregating business expenses from those of home. Moreover, many such taxpayers have long since arrived at the pleasant conclusion that, because the entire premises represent an outlay equivalent to that for a home alone, they in effect are getting free rent for the business. Now such thinking becomes more than a harmless bookkeeping deception. Such a belief fosters higher income taxes. The Treasury Department has long recognized that part of such an establishment is a business expense and may be so considered in making an income tax return.

What Every $100 of Unreported Business Expense Costs the Taxpayer in Additional Income Tax

If taxpayer's surtax income is	Additional Income Tax Per $100 Unreported Expense
Up to $2,000	$23
Over $2,000, but not over $4,000	25
Over $4,000, but not over $6,000	29
Over $6,000, but not over $8,000	33
Over $8,000, but not over $10,000 ...	37
Over $10,000, but not over $12,000 ...	41

Note: Above tax, in all cases, includes 3 per cent normal tax in addition to surtax for proper surtax bracket.

If the property is rented, the business may be charged with a pro rata share of the rent, utilities and other divisible expense. This may be as little as 20 or 25 per cent, or as much as 75 per cent, depending upon the division of improvements between home and business.

Likewise, where the taxpayer owns the property and uses it in large part for business purposes, he frequently fails to charge the business with any of the expense. Here are just a few of the items that he is undertaking to bear himself, instead of entering them as a business expense to determine his true net income: 1. annual maintenance cost; 2. depreciation of property; 3. utilities; 4. insurance on property. (Interest on mortgage and real estate taxes are deductible fully as a personal item in any event, and need not be divided for tax purposes, though division is still desirable for his own information.)

(Continued on page 14)

"Cave Drillers"

Virginia father and son team tap hidden reservoir by drilling through top of cave.

THE term "Cave Drillers" could very aptly be applied to L. D. Combs and Son of Bristol, Virginia for their unusual experience which appears to be unique in drilling records.

It happened in February of 1945 when they were asked to drill through the top of a cave located on the Starns estate just outside of Gate City, Virginia. The interior of the cave extended back from the mouth approximately 500 feet, and at a distance of 425 feet back was a large basin of water.

The water had been pumped out of the side of the cave with a ram pump for 29 years until it was decided to drill from above. Before Combs started the job, surveyors carefully measured the inside of the cavern and the ground above, then selected a spot for the drillers to begin.

Given the word to proceed, Combs sank a 5⅝ths-inch hole and at the depth of 88½ feet broke through the roof of the cave directly over the pool which was estimated to hold several thousand gallons of water. Not including the installation of an electric pump, the entire job took the drillers eight days.

The Combs team, composed of L. D. Combs Sr. and Jr., work East Tennessee and Southwest Virginia with their Bucyrus-Erie 33-W rig drilling farm and suburban wells. Last year they drilled around 2,500 feet—their average well being 150 feet deep. Most of their holes are put down in hard limestone with the water being found in soft streaks of the limestone or between the lime in breaks.

• L. D. Combs and Son take a minute off from their work to pose before their Bucyrus-Erie 33W.

Limestone Proves Difficult

Most of their drilling problems arise from the sloping limestone which makes it difficult to start a good hole. On one occasion back in September of 1944 while drilling for Allen Mars of Bristol, Tennessee, the Combs' had more trouble than usual — they started three holes before finally getting a good one.

They tried cement, scrap iron, and broken rock, but the tools only beat the material into the soft dirt, there was nothing to hold the bit up to start chipping the rock. Finally on the fourth hole they tried oak poles of 5⅝ths diameter at whatever length they thought was needed.

Ten or twelve poles were used in the hole ranging from three to eight feet in length. This method sometimes helps but usually leaves the hole with a slant to it besides taking time to drill all or part of the pole up and bail it out.

The DRILLER

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State Associations Deserve Support

NOW that many wartime restrictions on traveling are withdrawn, drillers and those associated with the water well industry once more have a chance to attend the annual conventions of their respective state driller associations.

Too much emphasis cannot be placed on the importance of attending these gatherings for the driller who wishes to keep abreast of the times. The modern, up-to-date driller needs all the information he can get on the new innovations being sponsored in his own industry if he wishes to be successful.

As in other fields, new methods are constantly being introduced, and experiments are made with the aim of improving trade mechanics. With this thought in mind, the majority of the convention committees plan their programs to include well-informed men connected with the industry to speak on special phases of the job.

Tables Are Constant

GROUND - WATER tables for December, 1945, showed little change according to the Water Resources Review issued by the U. S. Department of the Interior Geological Survey.

With the exception of an area in southern Arizona and New Mexico and a few scattered key wells in other parts, normal or above-normal water levels were reported as showing little change during December. Water levels along the Atlantic coast from Pennsylvania to North Carolina were termed "unusually high."

G. L. Harman

Friends of G. L. Harman, Export Sales Correspondent for Bucyrus-Erie Co. at South Milwaukee, Wis., were saddened to learn of his death Nov. 30, 1945, when he passed away at Columbia Hospital, Milwaukee.

Mr. Harman was active in the drilling field for 13 years. After leaving the Keystone Driller Co., Beaver Falls, Pa., in 1934, he joined his last employers as eastern drill sales representative; later he worked on the staff of the company's export department. During his service with both companies, Mr. Harman's kindly helpfulness won him many friends among drilling contractors.

New Spudder Announced By Bucyrus-Erie

A NEW all steel portable spudder —the 28-L—has just been announced by Bucyrus-Erie Company, South Milwaukee, Wisconsin. The new machine expands their current oil well and water well drill line to five models, others being the larger 36-L and the smaller 24-L, 22-W, and 21-W.

Primarily adapted to moderate depth top-to-bottom oil well drilling and servicing operations, the new 28-L is also well suited for drilling deep water wells; its maximum depth under normal conditions is rated at 2500 feet.

Fast on Job-to-Job Moves

Outstanding features of the 28-L, according to Bucyrus-Erie, are its portability which permits fast job-to-job moves; its easy rigging-up; its fast line speeds and powerful line pulls; its accurate control and efficient drilling action.

The derrick is a cantilever-braced, latticed box structure of the telescoping type, raised and extended by a built-in power winch. It can be erected in less than a half-hour. With extra casing tackle, it has capacity for handling up to 45,000 pounds static load; an auxiliary derrick leg (extra equipment) permits loads as high as 75,000 pounds.

Mountings available are dual pneumatic-tired semi-trailer with trailer hitch, and skid-type base for sliding to oil-field trucks. Reels include bull reel, sand reel, and casing reel. All have two speeds forward and one reverse, are controlled through operating levers grouped at the machine's drilling end. The bull reel

(Continued on page 16)

Storm Safe

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A Monitor windmill has its own "barometer"—an AUTOMATIC WIND GOVERNOR that adjusts itself to meet oncoming storms.

The exclusive Monitor wind governor assures constant pumping speed in varying wind velocities—safe in a storm, dependable when gentle breezes blow. IRON VAULT sealed gear case keeps out dust, prevents rust, keeps in oil.

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NEWS OF THE MONTH

Illinois Convention Makes Plans For State Well Code

THE largest registration in the history of the organization featured the 19th annual convention of the Illinois Water Well Drillers Association held in the University of Illinois Stock Pavilion, Urbana, on February 6, 7, and 8.

Business sessions during the three days were highlighted by the discussion concerning preparation of a state well code. L. T. Watry, Supervisor of Well Construction, Wisconsin State Board of Health, addressed the Thursday session on the Wisconsin well code to give the Illinois drillmen an idea of how the code applies to drillers. President W. A. McEllhiney's proposal that the association employ a part-time secretary to supervise the preparation of the code and handle publicity activities of the association was referred to a committee for further study.

Panel Discussions Included

Panel discussions regarding health, sanitation, well rehabilitation, and drilling problems rounded out the convention sessions which closed on Friday afternoon, Feb. 8. Many of the convention activities were broadcast by the University of Illinois station.

W. A. McEllhiney, Brookfield, was re-elected president of the association, and George Berns, Chebanse, was installed as Vice-president, succeeding J. T. Anderson, Morris. H. S. Woolen, Wapella, was returned to office as Secretary while C. F. Stiegman was re-elected Treasurer. T. A. Dreher was elected to the post of director. L. E. Workman was returned as Service Secretary.

Gopherites Hold Annual Convention At Minneapolis

HISTORY of driller's organizations, water conservation, price maintenance, and activities of the U. S. Geological survey were featured topics on the program of the Minnesota Well Drillers' Convention held at the Hotel Radisson, Minneapolis, January 21, 22, 23.

Principal speakers were K. M. Brown, past-president, American Association of Water Well Drillers, who reviewed organization history; Dr. O. E. Meinzer, Chief, Groundwater Division, Water Resources Branch, U. S. Geological Survey, who discussed water conservation; Lee Rogers, President, Layne-Western Company of Minnesota, Minneapolis, and T. B. Caswell of the McCarthy Well Company, St. Paul, who spoke in support of a resolution charging the Survey with needless spending of federal funds and interference with private industry. Dr. Meinzer returned to speak in defense of the Survey. The resolution, which was adopted by the group, follows:

"Whereas, the activities of the United States Geological Survey were made known and discussed at the Minnesota Well Drillers Association in convention assembled this 23rd day of January 1946, and were opposed, particularly their co-operative programs with various states and municipalities; and were condemned

as a waste of taxpayer's money, definitely competitive with well drillers and other groups in private industry and the engineering profession, the phase of their program which contemplates determining the ground water resources of the nation, county by county, being impractical, ridiculous and absurd as any competent well driller will testify,

"Therefore, be it resolved that the Secretary of this Association be instructed to place a copy of this resolution in the hands of the Senators, Congressmen and others, including magazines and trade journals, concerning this bureaucratic usurpation of functions carried out successfully by private industry throughout the development of our country; and that they be requested to vigorously oppose this encroachment on private industry."

Floor discussions touched on drilling problems, public health, and maintenance of price levels. A smoker and the annual banquet high-lighted entertainment.

In the final business meeting, O. L. Johnson, Osakis, was elected president to succeed Mike Ice, Wayzata. Other officers for 1946 are: Albert Mueller, Gaylord, Vice Pres.; E. H. Renner, St. Louis Park, Sec.-Treas.; W. A. Gustafson, Washburn, Wis., Three-year Director; R. Berdan, Sleepy-Eye, Two-year Director; Mike Ice, One-year Director.

Hoosiers To Gather At Indianapolis

THE annual convention of the Indiana Well Drilling Contractors Association will be held March 28 and 29 in the Severin Hotel, Indianapolis, according to Earl H. Merritt, secretary of the association.

The Severin Hotel, is providing one of their ballrooms for a display room and many supply and equipment companies are expected to show exhibits which will prove interesting to the drillers, the secretary reveals.

Officers Elected By Empire State

THE annual meeting of the Empire State Water Well Drillers Association was held at Mayfair Park, Utica, N. Y., and was featured by the election of officers for the new year.

The results, sent in by Secretary Neil A. Crandall, were as follows: President, V. J. Klindt, Morris, N. Y.; Vice-President, Clarence W. Crandall, Pine City, N. Y.; Secretary, Neil A. Crandall, Oriskany, N. Y.; Treasurer, Wm. Kinkaid, Jr., Canastota, N. Y.; 3-year Director, James Church, Norwich, N. Y.; and 2-year Director, Fred Merrill, Jr., Liverpool, N. Y.

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Iowa Drillers To Meet At Fort Dodge

MARCH 13, 14 and 15th have been selected as the dates for the 1946 convention of the Iowa Well Drillers Association which will be held at Hotel Warden of Fort Dodge, Iowa according to H. Landgraf, secretary of the association.

An interesting program has been arranged which will include a "Dutch" lunch and smoker on the evening of the 13th. The annual banquet with a drawing and entertainment is scheduled for Thursday evening on the 14th.

A large exhibit of drilling and pumping equipment with many new items is being planned for the gathering.

Huskers Convene On March 7 and 8

OVER one hundred members of the drilling fraternity are expected at Lincoln, Neb. when the Nebraska Well Drillers Association holds its annual convention at Nebraska Hall on March 7 and 8.

According to Chairman George S. Brinton, this will be the Cornhuskers' first meet since 1942 and a large turnout is indicated by the great amount of interest shown by the drillers. Plans for the two-day gathering are being readied and an interesting program may be expected.

Dakota Wellmen Hold Convention

A VERY successful convention of the North Dakota Well Drillers Association was held January 14 and 15 at Bismark, North Dakota, according to Fred V. Sletvold, secretary-treasurer of the organization.

"Pure Water and Sanitary Wells," was the main topic aired during the two-day meet, and during the discussion it was decided that the newly-elected directors are to aid the State Board of Health in drawing up a well drillers' code which is to be brought up before the next session of legislature for enactment.

The new officers and directors chosen were President W. E. Kitler, Beulah; Vice-President Fred Simpson, Bisbee; Secretary-Treasurer Fred V. Sletvold, Oakes; Director C. E. Turnbaugh, Edgely; Director Al Jaeger, Mooreton; and Director C. A. Simpson, Bisbee.

Look! . . .

(Continued from page 8)

Moreover, as a sole owner, the taxpayer is apt to bear the cost of business entertainment out of his personal pocket on the unsound theory that whether it is charged to the business or not does not materially affect him. Even taxpayers having modest incomes not infrequently spend several hundred dollars a year in small sums at a time treating their more favored customers and prospects and those able to recommend them. This may involve lunches, liquid refreshments, cigars and any other outlay of a similar character. It is recognized by the Treasury Department as a deductible item of business expense.

Only Current Year Counts

Failure to take any of these items in past income tax returns does NOT make it permissible to include past overlooked items in a current return, i.e.: two year's depreciation on a truck, for instance, in a 1945 return because of failure to show it in a 1944 return would be disallowed. Depreciation may be taken only for the current year, regardless

of whether or not the taxpayer has recognized depreciation in former years.

Once a depreciation schedule has been adopted it cannot be changed without permission of the Commissioner of Internal Revenue. Permission will not be granted merely to suit tax purposes of the taxpayer. Generally, depreciation schedules may differ even for articles of the same general type but once established must be adhered to throughout the life of the item. A taxpayer may not write off in one year the cost of items having a life extending over a greater period. Thus, purchase of a truck in 1945 may not be written off in full in the 1945 tax return unless its usefulness is ended by the end of the year. On the contrary, the asset must be depreciated over its useful life.

A check list of other deductible business expenses apt to be overlooked by the harrassed taxpayer include:

Membership fees in business associations, including chamber of commerce.

Expenses incurred in attending trade conventions, including travel, hotel and meals.

Bad debts, but only if written off the taxpayer's books and deducted in the year in which they are determined to be bad.

Loss from theft, either cash or property, either business or personal, only to extent not covered by insurance.

Loss from accident, storm, hurricane, fire, flood, etc., either to business or other property, to extent not covered by insurance.

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MORE PROFIT PER JOB WITH . . .

For shallow drilling. You get more hole at less cost with Macwhyte "Hi-Lastic." You finish the job faster—at more profit. "Hi-Lastic" on your drill means the bit turns better on all types of formation. There's less tendency for the hole to get out of round, and for the bit to channel. You can make a longer stroke, carry tools higher. "Hi-Lastic" is internally lubricated. No manila cracker needed.

For profitable deep well drilling. Macwhyte Standard Cable-Tool Lines are specially designed with just the right elasticity to strike long, hard, sharp blows.

For fast bailing. Use Macwhyte Sand Lines. Coarse laid (6 x 7) or soft laid (6 x 19), Mild Plow steel.

MACWHYTE COMPANY 50th Year 1896 – 1946

Get the CORRECT line for your equipment from

NO. 854

MACWHYTE COMPANY

2939 Fourteenth Ave., Kenosha, Wis., or any authorized Macwhyte Distributor or Mill Depot

clothes used for work) if not adapted to ordinary wear; also laundering same.

Depreciation Varies

The Bureau of Internal Revenue has determined that various depreciable items have certain years of useful life for purposes of determining rates of depreciation. In individual cases, these may vary, and the taxpayer may be allowed a more rapid depreciation, or be restricted to a less rapid rate, depending upon facts of each case. Generally, it may be accepted that equipment and other items, including buildings, may be depreciated in a shorter period of years, where the taxpayer has acquired them second-hand and where previous use by other owners has lessened their useful life. Such facts should be noted in depreciation schedules.

Typical rates of depreciable allowable per year are as follows, expressed in percentage of value at time of acquisition:

Safes	2 %
Typewriters	20 %
Automobiles	20 %
Light Trucks	25 %
Medium Trucks	16⅔ %
Heavy Trucks	12½ %
Brick and steel buildings	1 to 2 %
Frame buildings	4 to 10 %

New Spudder . . .

(Continued from page 11)

spools up to 4620 feet of ¾-inch line; sand reel spools 4450 feet of ½-inch. Fully automatic spooling saves cable by preventing piling up and pinching on the reels.

Manufactured at Bucyrus-Erie's plant in South Milwaukee, Wisconsin, the 28-L spudder is sold through a distributor organization with outlets in all of the principal oil fields.

Confined Cleaning

• Confined surroundings and slush proved no difficulty to the Keys Well Drilling Company of St. Paul, Minnesota, as they set their rig up and commenced cleaning a well last winter for General Mills of Minneapolis, Minnesota.

Macwhyte Plans To Celebrate Birthday

THE Macwhyte company of Kenosha, Wis., makers of wire line, announced recently that it was formulating plans to celebrate its fiftieth birthday as a corporation in the near future.

The original company from which the present Macwhyte firm evolved was incorporated in 1896. Golden jubilee plans include the annual meeting of employees, officers, and stockholders, and an open house at the plant for families of the employees and representatives of the public.

Developing Wells...

(Continued from page 5)

water wells with compressed air may be attributed to either lack of compressor capacity or insufficient submergence.

The compressor should be capable of developing a maximum pressure of not less than 100 pounds per square inch. It would be better to have 150 pounds pressure. A rule-of-thumb guide for determining air compressor capacity required is to have a compressor displacement of ¾-cubic feet of air for each gallon of water to be pumped.

Other equipment required in addition to the air compressor includes drop pipe and air line with suitable means for raising and lowering each independently of the other, flexible high pressure hose and pipe line to connect between tank and air line in well, and miscellaneous fittings such as pressure gage, quick opening valve at tank outlet and, unless compressor is fitted with unloaders, a relief valve to safeguard against accidental overloading.

The ratio in size of pipe is suggested by these two examples: Pumping rate is 75 to 100 GPM; size of well casing, 6 inches or larger; size of drop pipe, 3½ inches; size of air line, 1¼ inches. Or—pumping rate of 400 to 700 GPM; size of well casing, 10 inches or larger; size of drop pipe 8 inches; size of air line, 2½ inches. Other size combinations also are used.

In this method of development, it is necessary that the water rise high enough in the well so that at least 60 per cent of the air line in the well is under water. Efficiency drops off rapidly when submergence is less than 60 per cent. The air line could be connected to the bailer line and

the drop line handled with a chain to the drilling line.

Air from the compressor is piped directly to the air tank. The air from the tank to the well is piped through the same size as the air line in the well, or one size larger if the well air line is long. A heavy hose about 25 feet long is used between the pipe from the tank and the air line in the well so that the air line and drop line may be moved up and down when necessary.

First lower the drop pipe within two feet of the bottom of the screen with the air line placed inside the drop line so that it is a foot or more above the drop line. If the well is deep, a submergence of 65 to 70 per cent is all that is necessary for the air line.

Now, turn on the compressed air into the air line in the well and that will pump in the regular manner of an air lift. Keep this up until the water appears to be free of sand. Then close the globe or gate valve, which should be installed close to the air tank in the discharge pipe to the well, until the tank has been pumped up to a pressure of 100 to 150 pounds. While this pressure is being built up, lower the air line until it is a foot below the drop line. When the pressure is up, quickly turn the valve near the air tank. The air rushes into the well and a short surge of water follows. Following this short surge, a head of water will shoot partly from the casing and partly from the drop line.

A strong reverse flow is produced by pulling the air line back up the drop line as soon as the first heavy load of air has been released from the tank into the well. This agitates the formation being developed.

The entire process is repeated (pumping for a short time by the air lift method, etc.) and continuing until absence of sand in water indicates development has been completed at the level. The drop pipe is then raised two or three feet and development is repeated at the higher level, developing the entire length of the screen in this way a few feet at a

(Continued on page 22)

New Wire Clamp

A NEW wire clamp called CABL-OX has recently been put on the market by the Nunn Manufacturing Co. of Evanston, Ill. for use in securing wire rope in its many applications.

According to the manufacturers, the main features of the clamp are its speed of assembly, and economy of use. The unit is made of alloy steel, cadmium plated for weather protection, streamlined for neat appearance and freedom of obstruction. It is made in all standard sizes from 1/16" to ¾".

Stimulant Reported

OF interest to retailers serving farm and suburban families is the news release of the Thomas Sanitary Products Co. of Akron, Ohio, announcing a bacterial stimulant, Septic-Pep, to be used in reducing rapid clogging of rural home sewerage disposal systems.

According to the release, the product will break down solids entering the septic tank into liquid form so that they can pass out of the tank, and besides stimulating fermenting action will also initiate action in new septic tanks.

7 DEMING TURBINE PUMPS

Save Manufacturer $5,000.00 Yearly

A New Jersey Manufacturer formerly used a steam driven air lift system for factory water supply. A test was made to determine whether or not Deming Deep Well Turbine Pumps could reduce costs.

Results of Test

Efficiency: The air lift system pumped 5.2 G.P.M. per H.P. A Deming Turbine pumped 20.8 G.P.M. per H.P.

Capacity: The air lift system yielded 96½ G.P.M. The Deming Turbine yielded 208½ G.P.M.

On the basis of the test, 7 Deming Turbine Pumps replaced the former steam driven air lift system increasing total yield from 2¼ million to 3 million gallons daily.

Savings of $5,000.00 yearly are the net result of installing the 7 Deming Turbine Pumps.

Facts like these are helping well drillers to develop good business with Deming Turbine Pumps.

Send for illustrated Catalog Bulletin No. 4700-B

DEMING

THE COMPLETE LINE

PUMPS AND WATER SYSTEMS

The Deming Company · Salem, Ohio

WIT BITS

Grandmother: "See here, Billy. You shouldn't spit on your little brother."

Billy: "Well, sister was in the other room."

Driller: "Have you a book entitled, 'Man, the Master of the Home'?"

Clerk: "The fiction department is on the other side of the store."

"Frequent water-drinking," said the doctor, "will prevent you from becoming stiff in the joints."

"But, Doc, some of the joints don't serve water."

The parrot was sound asleep, so Willie put a big, colored Easter egg inside his cage. The parrot awoke, took a look, and squawked: "It's a dirty lie!"

Asked why he was going to marry a glamor girl from the city instead of some woman his own age, Grandpappy opined: "I'd a heap ruther smell perfume than liniment!"

"What's your cat's name, little boy?"

"Ben Hur."

"Odd name for a cat."

"Well, we just called him Ben until he had Kittens."

The teacher was testing the knowledge of the kindergarten class. Slapping a half dollar on the desk she said sharply, "What is this?"

Instantly a voice from the back row said, "Tails."

"I fainted. They brought me to. So I fainted again."

"Why?"

"Well, they brought me two more."

"My wife doesn't understand me. Does yours?"

"I dunno. Never heard her mention your name."

"I caught my husband necking!"

"Yeah, that's how I caught mine, too!"

Bystander: "Don't hit that boy when he's down."

Boy: "What do ya think I got him down for?"

Sunday school teacher illustrating politeness to class.

"And what do your folks say when they meet me coming down the street?"

Voice in the rear: "Duck!"

Two old Navy chiefs, retiring from the sea after 30 years of service, purchased a small tavern in a country town. The place was being painted inside and out, and was closed down while all gear was being secured, shipshape.

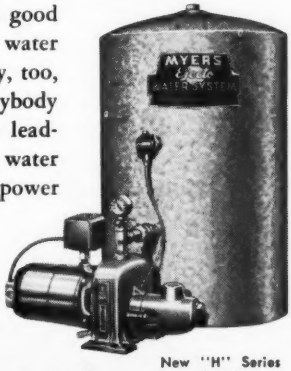
The villagers, after a few days, gathered outside the place and one of them knocked at the door. A window opened, and one of the chiefs inquired the reason for the gathering.

"We want to know when you are going to open up," was the reply.

"Open up!" retorted the chief . . . "We bought this place for ourselves!"

What Does SHE Know About Drilling a Well?

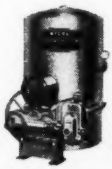
Probably nothing. But she knows that a good well is one that will provide plenty of water for her household needs. More than likely, too, she knows Myers Water Systems — everybody knows Myers pumping equipment. This leading line includes *Ejecto* and plunger type water systems in capacities for all needs — power and hand pumps, pump jacks, cylinders, accessories. Keep your customers happier and make more money by finishing your drilling jobs with Myers Pumps.



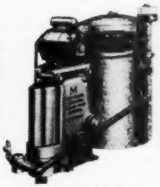
New "H" Series *Ejecto*

THE F. E. MYERS & BRO. CO.
Dept. F-5, Ashland, Ohio

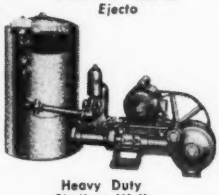
TAKE OFF YOUR HAT TO MYERS WATER SYSTEMS and PUMPS



Plunger type Shallow Well System



Plunger type Deep Well System



Heavy Duty Shallow Well System

WATER SYSTEMS, POWER AND HAND PUMPS, CYLINDERS, ACCESSORIES

BARGAIN COUNTER

To the reader who wishes to advertise used equipment in "Bargain Counter" Section.

All advertising in this section is payable in advance. Enclose your remittance with copy. Rates 5c per line. Minimum charge $1.20. No discounts; no commissions. Read these instructions carefully. The average line contains 28 characters (20 characters if all capital letters are used). Count spaces and punctuation as one character each. Allow 10 characters for box number if blind advertisement is desired. Count your own copy to save delay. Holding up your advertisement one month to secure approval of revised copy or an additional remittance, may cost you real money in a lost sale. Be sure to enclose the correct amount of money with your order. Closing date — 10th of preceding month. Example — January issue closes December 10th.

To the reader wishing to answer "Bargain Counter" Section advertisements appearing on these pages:

Be sure to address your inquiry to the advertiser by using the correct box number. Mail your letter in care of THE DRILLER, South Milwaukee, Wisconsin. Write each advertiser a separate letter. Do not write us for name and address of advertiser. This information will not be given out. We have no information about the equipment advertised other than that shown in the advertisements themselves.

DRILLS FOR SALE

STAR No. 43 Spudder, latest Star clutch. Tools 12" down. International 100 H.P. motor, butane equipped. New lines, etc. Everything complete, in A-1 condition. Price $4850.00. Telephone 1851.

A. V. SMITH, Jr.
1921 Frederica St.
Owensboro, Kentucky

Armstrong 25 traction mounted drill. Without engine or tools. Can handle 2000 lbs. tools. Make me an offer.
Box 114

Two Bucyrus-Erie 24-L drills. One mounted on Federal 2-ton truck, the other on 10-wheel International truck. $6,500 each, f.o.b. Cincinnati, Ohio. Box 111

No. 70 Keystone all steel drilling machine. Mounted on a GMC truck, in good shape. Machine with about 800' of drilling cable and 200' of sand line. Without tools. $3,000. f.o.b. Cincinnati, Ohio.
Box 110

No. 2 National oil and gas machine, powered by steam. Machine is equipped with tools from size 6" to 10", 3000' of new 7/8" cable, 3000' of new 1/2" sand line. In excellent condition and may be seen in operation. $6,500 f.o.b. Cincinnati, Ohio. Box 112

WANTED

Used Bucyrus-Erie 21-W, 22-W, 24-W or any steel well drill complete with tools. Mail details to R. E. Chitty, 517 S. Elmwood, Aurora, Illinois.

Wanted To Buy: 24-L Bucyrus-Erie drilling machine, mounted on trailer. Layne-Western Company, 1010 West 39th Street, Kansas City 2, Missouri.

All steel rig, 500-foot capacity. To drill 6" holes. With or without truck or tools.
Box 113

21-W or 22-W Bucyrus-Erie drill with or without tools. Or all steel rig of similar capacity. R. F. Bowron, R. 1, Sterling, Illinois.

HELP WANTED

Experienced well driller to operate Bucyrus-Erie drill in northwestern New York.
Box 115

Developing Wells...

(Continued from page 18)

time. Finally, the drop line might be lowered once again to within one or two feet from the bottom of the well and pumped again by the air lift method with occasional releases of air until the well is thoroughly cleaned of fine sand.

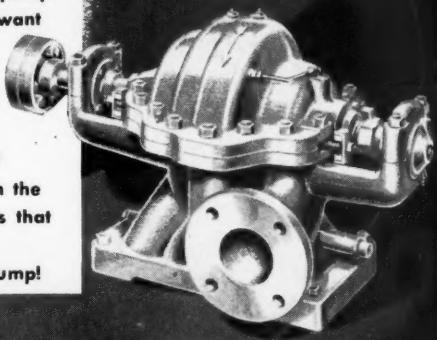
A Tee can be used at the top of the drop pipe and fitted with a short discharge pipe at the side outlet. At the top a bushing is placed just large enough to clear the couplings of the air line. Wrap a sack around the air line where it enters the drop pipe to prevent the water from spraying about the top of the well.

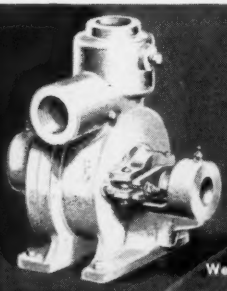
There is no better way used or known to get maximum development that the combination of this open well surging method used with surge blocks or plungers if the proper submergence is possible. Air does the preliminary work rapidly and the surge block will carry the work farther when necessary. Well drillers vary in the exact ways of applying this development method. They also use compressed air for the backwashing method of development, especially when the permanent pump is to be by the air lift method.

Can ANYONE make a Pump?

It's a question of what *kind* of pump you want—and how *good* you want it to be. If you want a pump that will squeeze the last fraction of a cent in value out of the monthly power bill, that is designed to the very limits of hydraulic knowledge—built with the fine tools and complete facilities that such precision design requires—you'll want a Fairbanks-Morse pump!

There's every size and type of centrifugal pump in the Fairbanks-Morse line.





WHEN YOU BUY a Fairbanks-Morse, Pomona or Westco pump, you get a design which is the result of years of research in not only our own laboratories but those of the universities' scientists whom we have retained!

Westco pumps: precision-built, broad in application.

For all vertical turbine pump work —the Pomona line.

THIS DESIGN and unlimited manufacturing facilities, combine to give you pumps superior in performance and reliability.

ANYONE CAN MAKE A PUMP

—perhaps! But for *proved* value, *skilled* service—Fairbanks-Morse is an unquestioned leader. Call your nearest Fairbanks-Morse distributor or branch office.

FAIRBANKS-MORSE

A name worth remembering

DIESEL LOCOMOTIVES · DIESEL ENGINES · MAGNETOS · GENERATORS · MOTORS · PUMPS
SCALES · STOKERS · RAILROAD MOTOR CARS and STANDPIPES · FARM EQUIPMENT

A journal for water well drillers

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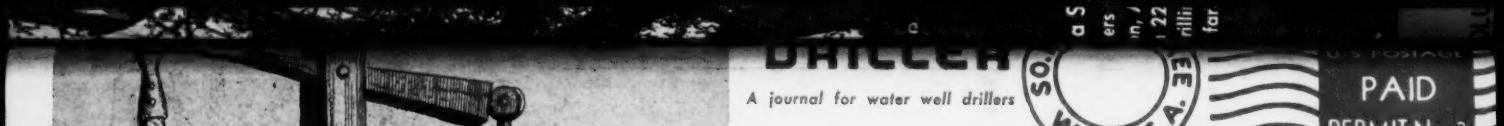
The Driller, South Milwaukee, Wisconsin



DRILLER

A journal for water well drillers

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